Management of Diabetes

MANAGEMENT OF DIABETES

Blood Glucose Monitoring

Once someone is told they have diabetes, they are usually asked to check their blood glucose at home with a home blood glucose meter or monitor. A meter or monitor is about the same size as a beeper and records blood glucose levels. Self-monitoring of the blood glucose (SMBG) will tell the person with diabetes their blood glucose value right away. It gives an immediate snapshot of the blood glucose level. The number of times one should check will be different with each client. The blood glucose results should be written down and given to the nurse and/or physician. The client and their nurse or physician will review the numbers and will make recommendations to improve diabetes control such as meal planning, exercise, medications and/or insulin. Testing the blood glucose at home means that a small drop of blood usually from the finger or forearm is placed on a strip. This strip either needs to be placed into a meter or the strip may be in the meter when the drop of blood is placed on the strip. The meter will then "read" the amount of glucose in the drop of blood and will display the result.

PRACTICE POINT

As the Home Health Aide, you may be asked to help your client check their blood glucose. You may be asked to get the supplies together and help set up the meter and other supplies. If you have been asked to check the client's blood glucose with the meter, the visiting nurse is responsible for showing you how to use the equipment and how to document the reading. The visiting nurse will also instruct you and the client about the times the blood glucose should be checked. Check your Agency's policy about performing blood glucose testing. Some Agencies allow the Home Health Aide to do the client's blood glucose test.

The visiting nurse or other health care person should tell you what numbers are considered acceptable. They should also tell you the numbers where you need to call for help or notify the visiting nurse. Adults with well-controlled diabetes have blood glucose readings between 100 to 140 mg/dl most of the time. In older people, values that are considered acceptable may be slightly higher.

Glycosylated Hemoglobin (Hemoglobin A_{1c} or glycated hemoglobin)

This is a blood test that is done in the doctor's office or a laboratory and gives the average blood glucose control for the last two to three months. The results are given as a percent. The higher the percent, the higher the average blood glucose during the last two to three months. This test is usually used together with self-monitoring of blood glucose (SMBG) to measure diabetes control.

Urine Glucose Testing

Urine glucose testing was the original way of monitoring diabetes control. Urine testing is no longer the best way of checking diabetes control although some of your clients may still be testing their urine for glucose. You may be asked to assist with the testing of the urine for glucose. You will need to check with the visiting nurse if you are to assist with urine testing for glucose.

PRACTICE POINT

If you are asked to check the urine for glucose, the visiting nurse is responsible for showing you how to test the urine for sugar and where to document the result.

Urine Ketone Testing

Urine ketone testing measures ketones in the urine. Ketones are found in the urine when diabetes is under poor control and the body tries to breakdown fat for energy. You may be asked to assist in checking the urine for ketones when a client's blood glucose is elevated (usually over 240 mg/dl).

PRACTICE POINT

The visiting nurse should tell you the correct times to assist with or perform a urine test for ketones. When checking the urine for ketones, a strip with a small pad of specially treated paper on the end is dipped into the urine and removed. After a specified time, the color change on the pad is compared to the colors on the container of strips. If the color has changed, the client has ketones in the urine. If there are ketones present, you should notify the visiting nurse.

Medications and Insulin

People with type 1 diabetes will need insulin. Some people with type 2 diabetes may need medications and/or insulin to better manage their diabetes. There are many different types of insulin and medications that can be given to the individual with diabetes.

PRACTICE POINT

It is the responsibility of the visiting nurse to review with the HHA the signs and symptoms of side effects of the insulins and/or medications. You may be asked to remind the patient that it is time to take the insulin and/or medications. Home Health Aides are not permitted to give insulin and/or medications.

Hyperglycemia

For most people, blood glucose numbers above 140 mg/dl (before meals) are too high. Some reasons for the blood glucose to be too high are eating too much food, being less active than usual, taking too little diabetes medications or insulin. Other reasons would include illness, infection, physical or emotional stress and taking certain other medications.

Some of the common signs of high blood glucose are:

- Extreme thirst
- Dry mouth
- Urinating often
- Feeling tired
- Blurred vision
- Weight loss without trying

Very high blood glucose can lead to:

- Stomach pain
- Feeling sick to the stomach and vomiting
- Confusion
- Deeper breathing
- Fruity breath
- Coma

If a person with type 1 diabetes has a high blood glucose reading and ketones in the urine, it can lead to a life threatening problem called diabetic ketoacidosis (DKA). Illness, infection, or not taking insulin is usually the cause of DKA. This develops quickly and is usually treated in the hospital.

The person with type 2 diabetes usually does not develop DKA. In type 2 diabetes, very high blood glucose readings, signs of severe fatigue, abdominal pain, nausea and vomiting, extreme thirst, confusion can also lead to a life threatening problem. These symptoms usually appear gradually. Any of these signs should be reported right away. Hospitalization is necessary.

PRACTICE POINT

You need to let the visiting nurse know if the client has any of the signs of high blood glucose, such as ketones in the urine, nausea and vomiting, abdominal pain, or confusion.

Hypoglycemia

In general, a blood glucose reading lower than 80 mg/dl is too low. When the reading is too low, it is called hypoglycemia or insulin reaction. Hypoglycemia is usually caused by eating less food or eating a meal later than usual, being more active than usual, taking too much insulin or diabetes medications. Drinking alcohol may also cause hypoglycemia. People who try to keep their blood glucose close to normal may have more low reactions. More frequent blood glucose testing can give information to see if the blood glucose is running too high or too low. Some of the signs of low blood glucose are:

- sweating
- weakness
- shaking or trembling
- fast heartbeat
- headache
- not being able to think clearly
- numbness or tingling around the lips
- irritability
- drowsiness
- confusion
- seizures
- coma

Some people feel the symptoms of low blood glucose or hypoglycemia at higher blood glucose readings. Still others cannot feel the symptoms at all. Most people have the same symptoms each time they have a low blood sugar reaction. Usually, the symptoms show up quickly. If any of these symptoms appear, it is important to test the blood glucose right away. If it is low, usually less than 80 mg/dl, it is important to treat the person to get rid of the low reaction even if they are not experiencing symptoms of low blood glucose. Some foods that can be given are:

- ½ cup fruit juice
- ½ cup regular soda
- 1 cup milk
- 4 to 5 pieces of hard candy
- 3 to 4 glucose tablets

The blood glucose should be tested again in 15 minutes. If it is still low, again give appropriate foods such as those given when the glucose was first found to be low. This should be repeated every 15 minutes until the blood glucose rises past the low zone. If the next meal is more than 30 minutes away, the person should eat something like crackers and cheese or peanut butter or a glass of milk.

PRACTICE POINT

A low glucose can happen quickly. If not treated, the person may get confused, pass out or have a seizure. The person may not be able to swallow. If the person cannot be aroused or cannot swallow, call for help immediately (911).

If you have treated the person with food 2 times at 15 intervals, you should notify the visiting nurse.